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is not mentioned by the authors above cited, nor by Redtenbacher; but attention is called to it in the description of Thomson, Skandiv. Coleoptera, ii, 117.

23. *G. rockinghamensis* Zimm., MS. Dr. Zimmermann mentions in his MS. that he found this species in schools of several thousands, in ponds at Rockingham, North Carolina. I have translated the description from his notes.

Species not identified.

G. impressicollis Kirby, Fauna Bor. Am. iv, 79. Mr. Adam White, B. M. Cat. 45, refers this to *G. borealis* Aubé, but the great size, unless an error of print, (4 lines, = 8.3 mm.) renders such reference very improbable.

G. Sayi Aubé Hydroc. 698. See remarks under No. 17.

G. fuscipes Motsch. Bull. Mosc. 1859, ii, 173. California; perhaps *G. consobrinus* Lec.*

GYRETES Brullé.

1. *G. sinuatus*, elongate oval, very convex, dark bronzed, very shining; sides of prothorax and elytra densely punctured and pubescent, punctures reaching the suture; tip of elytra broadly and obliquely truncate, outline of the truncation very slightly but distinctly sinuate, outer angle distinct, slightly prominent, inflexed margins ferruginous; body beneath and legs ferruginous, breast and base of abdomen darker. Long. 6 mm. Lec. Ann. Lyc. Nat. Hist., New York, v, 210.

Abundant in the Colorado River, near Fort Yuma, California.

2. *G. compressus*, still more elongate, and more convex than the preceding, and more narrowed in front than behind, dark bronzed, shining; sides of prothorax and elytra densely punctured and pubescent, punctures not quite reaching the suture; tip broadly and obliquely truncate and very feebly sinuate, outer angle obtuse, distinct, slightly prominent, inflexed margins black; body beneath dark brownish red, feet and tip of abdomen paler. Long. 6.75 mm. Lec., New Spec., North Am. Col., (Smith's Inst.) 23.

One specimen collected at Quincy, Illinois, by Mr. Willcox.

Notes on the Species of AGONODERUS, BRADYCELLUS and STENOLOPHUS inhabiting America north of Mexico.

BY JOHN L. LE CONTE, M. D.

The final demolition of the genus *Acupalpus* Dej. seems to have been accomplished by Baron Chaudoir, in his recent notes upon North American Carabidae,† by the reference of most of the species contained in my third division of *Stenolophus*‡ to *Agonoderus*. In fact, his suggestion is so perfectly natural, that it is strange that the resemblance in form and sculpture, and in the proportion of the joints of the hind tarsi, with the absence of sexual characters in the front tarsi, did not long since cause these species to be placed in the proper position to which he has assigned them.

In reviewing the specimens of my collection with the aid of the remarks of my learned friend, I have found such resemblances in form between the species

* Mr. Uhler has sent me a portion of a large school of *Gyrinus*, collected in Charles River, near Cambridge, Mass., which shows that in some cases at least the species do not live apart. An examination of all the individuals captured has given me the following results:—

<i>G. limbatus</i> , 4♂, 5♀.	<i>G. fraternus</i> , 2♂, 2♀.
<i>G. dichrous</i> , 5♂, 6♀.	<i>G. picipes</i> ? (race), 5♂, 3♀.
<i>G. confinis</i> , 12♂, 7♀.	<i>G. lugens</i> , 18♂, 4♀.

I have observed at Lake Superior, however, that the species are generally not found intermixed.

† Revue et Mag. de Zoologie, 1868.

‡ Vide List of Coleoptera, North Am., p. 13.

of the three genera above named, that a brief synopsis of the distinguishing characters of those which I have investigated seems to me to be useful for the proper naming of the specimens contained in local cabinets.

I may also add that the determinations of Baron Chaudoir, who is the fortunate possessor of the Dejeanian types, must be taken as conclusive, regarding the species of that author; the original descriptions were unfortunately defective in some respects, and my recognition of his species was therefore erroneous.

In all the species mentioned in this synopsis, except *Bradycellus dichrous*, *vulpeculus* and *autumnalis*, the marginal line limiting the bead of the prothorax is obliterated for a greater or less extent at the middle of the base, but in those three species it is entire, as in the true *Harpali*, with which, perhaps, they should more properly be associated.

AGONODERUS Dej.

In the species of this genus the emargination of the mentum is less semicircular in outline than in *Stenolophus*, but equally destitute of any vestige of a tooth; the sides of the emargination are more oblique and the bottom therefore narrower, like a broadly rounded angle; the body is rather stouter and more convex, the joints of the antennæ thicker, the hind tibiæ and tarsi less slender, the joints 1—4 of the latter diminishing in length less rapidly, the front tibiæ stouter and more strongly spinose near the tip, and finally the front tarsi are alike in form in both sexes and in the more slender species thinly clothed with a few papillæ.

Our species, all but one of which, as far as known, are represented in my collection, diminish gradually in size, and may be grouped as follows, the dorsal puncture being wanting only in *A. infuscatus*:

A. Body stouter and more convex; prothorax transverse, quadrate-oval.

a. Hind angles of prothorax very much rounded.

7—8.5 mm. Pale yellow above; prothorax with two discoidal spots; scutellar stria long; elytra with two dark stripes separated by the sutural interval; dorsal puncture distinct..... 1. *lineola*.

6.5 mm. Dark testaceous or piceous, narrow margin of prothorax and broader one of elytra pale; scutellar stria shorter; dorsal puncture wanting..... 2. *infuscatus*.

b. Prothorax nearly quadrate; hind angles obtuse, slightly rounded; sides less rounded.

8 mm. Pale yellow; head behind the eyes black, with an occipital round yellow spot; prothorax with two discoidal oval black spots; base finely and not densely punctured; elytra with two dark stripes, as in *lineola*; scutellar stria long. (Differs from *lineola* chiefly by the form of the prothorax.) California, and Nevada..... 3. *maculatus*, n. sp.

B. Body more elongate, less convex; prothorax scarcely wider than long; subtrapezoidal, being more or less distinctly narrowed behind; elytra with one dorsal puncture.

a. Larger species; color pale; elytra with a wide black stripe, divided by the suture; disc of prothorax frequently with a large black spot; head always black.

5.5—6 mm. Hind angles of prothorax rounded; scutellar stria long.

4. *comma*.

5.5—7 mm. Hind angles of prothorax scarcely rounded; scutellar stria short..... 5. *pallipes*.

7 mm. Sides of prothorax subsinuate behind; hind angles rounded; scutellar stria short? (interrupted in the only specimen I have seen); hind tarsi stouter than in *pallipes*. California..... 6. *rugicollis*.

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b. Smaller species.

* Head black; scutellar stria distinct.

3.5—4 mm. Prothorax pale; hind angles much rounded; basal impressions with a few coarse punctures; elytra with a broad, dusky stripe or cloud, divided by the sutural interval; body dusky beneath..... 7. *partarius*.

3—3.25 mm. Very similar to *partarius*, but smaller, with the basal impressions less marked, and still more sparsely punctured; elytra dusky, with the suture and margins pale; prothorax pale above and beneath; trunk always and abdomen usually dusky..... 8. *pauperculus*.

3—4 mm. Equal in size to *partarius*, but narrower, with the sides of the prothorax not rounded behind, but even feebly subsinuate; the hind angles are, however, rounded, the disc marked with a large, quadrate, blackish spot; elytra blackish, with the suture and margin testaceous; scutellar stria longer than in *partarius*..... 9. *indistinctus*.

** Head pale, of the same color as the prothorax; body testaceous or ferruginous beneath, not blackish; scutellar stria short or wanting.

2.5—3 mm. Prothorax with the hind angles much rounded; basal impressions faint, marked with a few large punctures; elytra with the scutellar stria punctiform; disc sometimes with a faint dusky cloud..... 10. *testaceus*.

2.75 mm. Of the same size and form as the preceding, with the scutellar stria distinct though short, not punctiform..... 11. *micros*.

Bibliography and remarks.

1. *A. lineola* Dej., Sp. Gen., iv, 51; *Carabus lineola* Fabr., Ent. Syst., i, 155; Syst. El., i, 197; Oliv., 35, 78, pl. 7, f. 75; *Feronia lineola* Say, Tr. Am. Phil. Soc., ii, 37; ed. Lec., ii, 464; *Carabus furcatus* Fabr., Ent. Syst., i, 164; Syst. El., i, 206, (var. thorace immac.)

Carabus comma Fabr. cannot be referred to this species, as is erroneously stated in the Melsheimer Catalogue and thence copied into my List, since it is described as having the head black.

2. *A. infuscatus* Dej., Sp. Gen., iv, 54; *suturalis* Lec., Ann. Lyc. New York, iv, 373.

4. *A. comma*. *Carabus comma* Fabr., Ent. Syst., i, 165; Syst. El., i, 207; *Feronia pallipes* Say, Trans. Am. Phil. Soc., ii, 38; ed. Lec., ii, 465; *A. pallipes* Dej., Sp. Gen., iv, 53; *A. dorsalis* Lec., Ann. Lyc. N. York, iv, 373.*

* The MS. descriptions and remarks of Dr. Zimmermann upon this and the next species are so important that I have translated them:

"*A. comma*. Abundant in the Northern States; $2\frac{3}{4}$ — $3\frac{1}{2}$ lines long.

"Altogether similar to *A. pallipes* in form and color, and usually confounded with it; differs in the marking of the elytra, upon each of which there is a black stripe, so that the suture remains yellow; this stripe extends from the first to the fifth stria, and is commonly abbreviated in front, sometimes, however, attaining the base, but never the suture. The dorsal spot of the prothorax is sometimes wanting; the hind angles are somewhat more obtuse, and the scutellar stria of the elytra longer than in the next species.

"*A. pallipes*. Abundant in the Southern States; 2—3 lines long.

"Body elongated, not very convex, testaceous; mouth, palpi, base of antennæ, feet and anus reddish-yellow; under surface and head black; a large black or brown spot on the middle of the prothorax, and a broad black stripe on the elytra, which extends from the suture to the fourth stria, pointed in front and reaching the scutellum. Head with deep frontal impressions and moderately large eyes; prothorax narrowed behind; hind margin and shallow basal impressions thickly punctured; hind angles rather obtuse than rounded; elytra with deep, smooth striae, short scutellar stria and a distinct posterior dorsal puncture upon the second stria.

"*Remarks*.—It is obviously this species and not the preceding which Fabricius described from the Hunterian collection. This is apparent, not only in the words '*Coleoptera nigra limbo pallido*,' but also by the description and figure given by Olivier under the same name, with the additional remark that the insect was found in Carolina. *A. pallipes* Dej. is another species which is found in the Northern States, and described by Fabricius under the name *Car. comma* in the following words: '*Elytra grisea, macula lineari nigra versus suturam*.' The specimen of *Carabus pallipes* in the Fabrician cabinet is a *Cymindis variegata* Dej., according to Schaum, Stettin Ent. Zeitung, 1847, 47.

1868.]

5. *A. pallipes* Lec., Ann. Lyc. N. York, iv, 373; *Carabus pallipes* Fabr., Ent. Syst., i, 159; Syst. El., i, 200; Oliv., 35, 121, pl. 9, f. 99; *A. Lecontei* Chaud., Rev. and Mag. Zool., 1868.

6. *A. rugicollis* Lec., Proc. Acad. Nat. Sci., Phil., 1859, 83.

7. *A. partarius* Chaud., Rev. and Mag. Zool., 1868; *Trechus part* Say, Trans. Am. Phil. Soc., ii, 90; ed. Lec., ii, 504. Dr. Zimmermann believed that he recognized in this species *Carabus celer* Oliv., 35, 114, pl. 14, f. 168, to which the locality "Paris" was incorrectly given; he supposed that the specimen was found in Carolina by Bosc., from whose collection it was described.

8. *A. pauperculus* Chaud., Rev. and Mag. Zool., 1868; *Acupalpus paup.* Dej., Sp. Gen., iv, 463, *Ac. consimilis* Dej., ibid., iv, 465.

9. *A. indistinctus* Chaud., Rev. and Mag. Zool., 1868; *Acupalpus ind.* Dej., Sp. Gen., v, 846. Dr. Zimmermann determined this species as *Ac. humilis* Dej., ibid., iv, 462, which is referred by Chaudoir to *Stenolophus*; with about twelve specimens before me, I can perceive no greater sexual differences than those observed in other small species of this genus; a specimen determined by Zimmermann as *Ac. difficilis* Dej., Sp. Gen., iv, 435, does not differ, except in being of a uniform pale brown color and scarcely perceptibly more elongated. Should this synonymy be correct the species must be called *A. humilis*, the specific name under which it was first published.

10. *A. testaceus* Chaud., Rev. and Mag. Zool., 1868; *Acupalpus test.* Dej., Sp. Gen., iv, 460.

11. *A. micros* Lec., Ann. Lyc. N. York, iv, 412. My description mentions the only distinguishing character between this and the preceding, which is, that the scutellar stria, though short, is quite obvious.

STENOLOPHUS Dej.

In this genus the mentum is semicircularly emarginate, without median tooth; the front and middle tarsi of the male are dilated, and furnished beneath with two rows of squamiform papillæ. The form of the dilated joints enables the species to be divided into natural groups. Until the male is known, it is somewhat difficult to decide whether some of the smaller species should be referred to this genus or to *Ajonoderus*; but in doubtful cases, in the absence of specimens with dilated front tarsi, I have referred to *Stenolophus* all those in which the first and second joints of the hind tarsi are much longer than the third and fourth; in other words, those in which the hind tarsi are more slender, and the joints diminish in length more rapidly than in *Ajonoderus*.

Our species may be grouped as follows:

A. Body rather stout, prothorax but little narrower than the clytra; front and middle tarsi of male broadly dilated; fourth joint very deeply bilobed; scutellar stria long.

a. Sides of prothorax broadly flattened, scarcely reflexed.

7.5 mm. Black, not very shining; 1st joint of antennæ, tibiæ and tarsi brownish..... 1. *carbonarius*.

b. Sides of prothorax less broadly flattened, more strongly reflexed.

6.5 mm. Piceous black, shining; base of antennæ, margin of prothorax, epipleuræ and feet brown; basal impressions of thorax feebly and sparsely punctured..... 2. *spretus*.

c. Prothorax narrowly margined, margin not reflexed.

6.5—7 mm. Piceous with brassy lustre, margins of thorax and elytra testaceous, base of antennæ and feet more or less brown; prothorax subquadrate; basal angles nearly rectangular, rounded at tip, impressions finely punctured and rugose..... 3. *limbalis*.

7—7.5 mm. Black, shining, elytra piceous or testaceous, slightly iridescent, base of antennæ and feet more or less testaceous or brown; prothorax feebly

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narrowed behind, hind angles obtuse rounded, basal impressions with a few scattered punctures, bead of lateral margin pale..... 4. *fuliginosus*.

5.5 mm. Black shining, base of antennæ and feet ferruginous, elytra slightly iridescent, margin brown; prothorax with the lateral bead brown, feebly narrowed behind, hind angles much rounded, basal impressions rounded, impunctured 5. *plebejus*.

3.5—4.5 mm. Smaller, piceous shining, sides of elytra and disc of prothorax frequently ferruginous, base of antennæ and feet ferruginous; prothorax feebly narrowed behind, hind angles very much rounded, not at all apparent; basal impressions small, rounded, feebly impressed, impunctured,

6. *conjunctus*.

4.5 mm. Similar to *conjunctus*, but narrower; black shining, margins of prothorax and elytra brown, base of antennæ and feet ferruginous; prothorax scarcely wider than long, not narrowed behind, hind angles much rounded, not at all apparent, basal impressions punctiform..... 7. *rotundatus*.

B.

Body more slender, prothorax evidently narrower than the elytra, front tarsi of male moderately dilated, 4th joint deeply bilobed, middle tarsi of male not dilated; elytra with long scutellar stria, more or less iridescent; base of antennæ and feet pale; hind angles of prothorax obtuse rounded.

a. Elytra more finely striate, middle tarsi of male with two rows of squamiform papillæ. (Pacific species.)

* Striæ deeper towards the tip.

6 mm. Blackish, with the margins paler; prothorax wider than long, scarcely narrowed behind, basal impressions broad, very feebly punctured.

8. *anceps*.

6.5 mm. Elytra black, with narrow pale margin; prothorax scarcely wider than long, narrowed behind, basal impressions faint, feebly punctured, disc yellow, with a large, somewhat bi-lobed black spot (elytral striæ deeper than in the preceding and next species)..... 9. *cincticollis*.

** Striæ not deeper towards the tip.

4.5—5.27 mm. Beneath and head blackish, antennæ, feet, prothorax and elytra testaceous; prothorax wider than long, narrowed behind, basal impressions narrow, not punctured; elytra with a faint dusky cloud behind the middle 10. *unicolor*

b. Elytra more deeply striate, striæ deeper towards the tip, middle tarsi of male without rows of squamiform papillæ.

8.5 mm. Larger, blackish, with the margins paler; prothorax wider than long, with the basal impressions broad, finely punctured..... 11. *flavipes*.

5.5—5.75 mm. Smaller, blackish, narrow margins paler, prothorax scarcely wider than long, basal impressions broad, sparsely but less finely punctured.

12. *ochropezus*.

5.5—7 mm. Prothorax testaceous, hind angles more rounded, basal impressions sparsely punctured; elytra iridescent black, with very wide testaceous side margin..... 13. *dissimilis*.

C.

Small species of elongate form; front tarsi of ♂ moderately dilated, fourth joint deeply emarginate, middle tarsi feebly dilated, with two rows of squamiform papillæ; elytra with long scutellar stria, base of antennæ and feet pale; hind angles of prothorax obtuse or subrectangular, less rounded than in B.

a. Elytra with but one dorsal puncture, as usual, on the second stria; hind angles of prothorax obtuse, somewhat rounded; frontal suture more distinct than usual.

3 mm. Head narrower than the prothorax, and almost as long; color scarcely brown, elytra darker, slightly iridescent, prothorax trapezoidal, but little broader than long, narrowed behind, rounded on the sides only before the middle; basal impressions broad, feebly punctured; eyes not prominent.

14. *hydropicus*.

2.5—3 mm. Head more distinctly narrower than the prothorax, with larger and more prominent eyes, otherwise quite similar to *hydropicus*, but more elongate and less convex; color variable, but the head is always dark and the elytra iridescent..... 15. *carus*.

b Elytra with several dorsal punctures; hind angles of prothorax rectangular, not rounded.

4 mm. Elongate, more depressed, head blackish, prothorax pale, with a large quadrate dusky spot; anterior transverse impression deeply marked, basal impressions broad, rugosely punctured; elytra pale, with a broad dorsal vitta divided by the suture and abbreviated at each end; dorsal punctures 3. Georgia, one specimen..... 16. *flavilimbus*, n. sp.

3.5 mm. Smaller and less depressed; head blackish, prothorax testaceous, basal impressions deeper, feebly punctured, elytra dusky, with the suture, base and margin testaceous; dorsal punctures 3..... 17. *longulus*.

3—3.25 mm. Still smaller, prothorax as long as wide, with the sides still more subsinuate behind, and the hind angles more prominent; basal impressions deep, punctured; color brown or blackish, paler at the margins; dorsal punctures 4..... 18. *rectangulus*.

D.

Body more elongate and linear than in any of the preceding species: head as wide and nearly as long as the prothorax; front tarsi of ♂ moderately dilated, 4th joint bilobed, middle tarsi slightly dilated; prothorax narrowed behind, with flattened rectangular angles; elytra with long scutellar stria; palpi longer and more pointed than in the other groups of *PHILODES* Lec.

a. Elytra each with three distinct rows of dorsal punctures.

4.25 mm. Testaceous, head and part of elytra dusky; basal impressions of prothorax large, deep, not punctured; body depressed; eyes small.

19. *alternans*.

b. Elytra with the rows of dorsal punctures obsolete, only the posterior puncture of the second stria obvious.

4.25 mm. Dark brown, prothorax paler, with the basal impressions less deep, but also not punctured; body less depressed, eyes larger and more prominent..... 20. *tener*.

Bibliography and Remarks.

1. *S. carbonarius* *Brullé*, Lec. Ann. Lyc. N. York, iv, 409; *Harpalus carb.* Dej., Sp. Gen. iv, 398.

2. *S. spretus* *Dej.*, Sp. Gen. v, 845.

3. *S. limbalis* *Lec.*, Rep. Pac. R. R. Surv., xi, 2, Ins. 28; *S. indistinctus* *Motsch.* Bull. Mosc., 1859, 2, 134.

4. *S. fuliginosus* *Dej.*, Sp. Gen., iv, 423; *Lec.* Ann. Lyc. N. York, iv, 410; *S. versicolor* *Kirby*, Faun. Bor. Am., iv, 46; *S. fuscipennis* *Lec.*, Ann. Lyc., N. York, iv, 410.

5. *S. plebejus* *Dej.*, Sp. Gen., iv, 424; var. immat. *S. fuscatus* *Dej.*, ibid. 426.

6. *S. conjunctus* *Lec.*, Ann. Lyc., N. York, iv, 410; *Trechus conj.* *Say*, Trans. Am. Phil. Soc., ii, 90, ed. Lec. ii, 504; *Acupalpus misellus* *Dej.*, Sp. Gen. iv, 467; *Ac. rotundicollis* *Hald.*, Proc. Acad. Nat. Sc., Phil., i, 302; *Ac. lugubris*, *Hald.*, ibid., i, 302. Found from the Atlantic to the Pacific.

7. *S. rotundatus* *Lec.*, New. Sp. Col., (Smiths. Inst.), 17.

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8. *S. anceps* Lec., Pac. R. R. Expl., xi, 2, 28; *S. rotundicollis* Motsch. Bull. Mosc. 1859, ii, 135.
9. *S. cincticollis* Lec., Proc. Acad. Nat. Sc., Phil., 1858, 60.
10. *S. unicolor* Dej., Sp. Gen., iv, 411; Mannh. Bull. Mosc., 1843, 214.
11. *S. flavipes* Lec., Proc. Acad. Nat. Sc., 1858, 60.
12. *S. ochropezus* Dej., Sp. Gen., iv, 424; *Feronia ochr.* Say., Trans. Am. Phil. Soc., ii, 54; *S. convexicollis* Lec., Ann. Lyc., N. York, iv, 404.
13. *S. dissimilis* Dej., Sp. Gen., iv, 424.
14. *S. hydropicus* Lec., New Spec. Col. (Smiths. Inst.), 17.
15. *S. carus* Lec., ibid., 18.
17. *S. longulus* Lec., List Col. N. Am., 13; *Acupalpus long.* Dej., Sp. Gen., iv, 459.
18. *Acupalpus rectangularis* Chaud., Rev. and Mag. Zool., 1868.
19. *S. alternans* Lec., Trans. Am. Phil. Soc., x, 386; *Badister testaceus* Lec. Proc. Acad. Nat. Sc., Phil., ii, 252; *Aepus test.* Lec. Ann. Lyc., N. York, iv, 413, *Philodes alt.* Lec., Class. Col. N. Am., 1, 33.
20. *S. tener* Lec., Pac. R. R. Expl., xi, 2, Ins. 29; *Philodes tener* Lec., Class. Col. N. Am., i, 33.

BRADYCELLUS Er.

The elytra are obliquely but feebly sinuate at tip, and never subtruncate as in the species of *Stenolophus*.

This genus contains both large and very small species, and, like *Stenolophus*, may be divided into groups according to the dilatation of the male tarsi; it may be distinguished from the other two genera by the mentum being armed with a large acute tooth, though in some of the smaller species it is sometimes difficult to perceive this character without the aid of a compound microscope; and even then the tooth is sometimes rendered less apparent, when the ligula is extended, by the basal portion of that organ; I believe, however, that I have by careful examination satisfied myself of the existence of the mentum-tooth in all of the species which I now refer to the genus.

Some of the smaller species of division B closely resemble in appearance *Agonoderus*, but may be usually known by the more slender antennæ and hind tarsi, and by the much shorter scutellar stria, which is sometimes in fact entirely wanting; a reference to the mentum, to verify the proper character belonging to the genus, should be always made in doubtful cases.

Baron Chaudoir regards the 1st division as constituting a distinct genus, *Tachycellus* Moravitz, but in view of the sexual differences observed in *Stenolophus*, I am scarcely prepared to adopt his opinion; I prefer therefore, for the present, to group the species as follows:

A. Front tarsi of male moderately dilated, middle tarsi less dilated, with two rows of squamiform papillæ beneath; elytra with a long scutellar stria.

a. Basal bead of prothorax well defined for its whole extent.

10—11 mm. Ferruginous, elytra black, iridescent, deeply striate; prothorax scarcely narrowed behind, sides broadly rounded and widely depressed, hind angles obtuse, somewhat rounded; base finely punctured.... 1. *dichrous*.

9—10 mm. Color as in the preceding; prothorax narrowed behind, sides rounded in front, oblique behind; hind angles scarcely rounded; base finely punctured; basal impressions more strongly marked..... 2. *vulpeculus*.

8 mm. Black; prothorax narrowed behind with small basal impressions, hind angles obtuse, not rounded; antennæ and feet ferruginous.

3. *autumnalis*.

b. Basal line of prothorax interrupted or nearly obliterated at the middle.

5—6 mm. Blackish; bead of prothorax pale; elytra piceous or dark testaceous; body more slender; prothorax distinctly narrowed behind; hind angles obtuse rounded; basal impressions well marked, sparsely punctured; legs ferruginous, thighs and tips of tibiæ sometimes darker; 1st joint of antennæ pale..... 4. *badipennis*.

1868.]

7 mm. Black; prothorax and elytra testaceous, the former with a large quadrate black spot, the latter with a dusky cloud divided by the suture; body slender; prothorax distinctly narrowed behind; hind angles subrectangular, slightly prominent, not rounded; basal impressions broad, punctured; antennæ with joints 1—3 testaceous, legs testaceous.

5. *atrimedius*.

4.5 mm. Smaller, slender, ferruginous, upper surface pale, with the head and disc of elytra somewhat darker; prothorax distinctly narrowed behind; hind angles subrectangular, slightly prominent, not rounded; basal impressions broad punctured; antennæ with the joints 1—3 or 4 paler.

6. *nebulosus*.

5.5—6.5 mm. Black, shining, not iridescent; prothorax with the hind angles rectangular; basal impressions linear, strongly marked, smooth, or scarcely punctured; anterior transverse impression distinct, strongly angulated; upper part of tibiæ and 1st joint of antennæ dark testaceous.

7. *nigrinus*.

5 mm. Smaller than *nigrinus*, with the hind angles of prothorax distinctly obtuse, but not rounded; otherwise not different; perhaps only an individual variation..... 8. *tibialis*.

B.

Species of small size with the scutellar stria very short, or altogether wanting; front tarsi of male moderately dilated, middle tarsi not dilated nor furnished with squamiform papillæ.

a. Striæ of elytra perfect.

* Head finely and sparsely punctured behind.

5 mm. Black or piceous shining; prothorax wider than long, slightly narrowed behind, much rounded on the sides; hind angles rounded; basal impressions well marked, feebly punctulate; elytra with the humeri and sometimes the sides paler brown; base of antennæ brown... 9. *axillaris*.

4.5—5 mm. Blackish, with the first joint of antennæ, feet and elytra more or less testaceous; prothorax at tip and base sparse punctured, formed as in the preceding, but less rounded at the sides and hind angles; basal impressions well marked; elytra (when pale marked with a dusky dorsal cloud, when dark, with the suture and sides paler,) thinly clothed with short pubescence near the sides and tip; intervals usually sparsely and distinctly punctured at the sides, base and tip; (α . larger and broader, testaceous, trunk dusky; elytra scarcely punctulate, *B. nitens* Lec.)..... 10. *cognatus*.

* * Head not punctulate; basal impressions of prothorax feeble.

† Basal impressions of prothorax smooth.

5 mm. Black, 1st joint of antennæ and feet testaceous yellow; prothorax much rounded on the sides, slightly narrowed behind; hind angles obtuse, scarcely rounded; basal impressions very feeble; scutellar stria entirely wanting..... 11. *cordicollis*.

† † Basal impressions of prothorax punctulate; scutellar stria represented by a puncture at the base of the 2d stria. Body elongate.

4—4.5 mm. Dark reddish testaceous, trunk black, antennæ with first two joints pale; prothorax a little wider than long, narrower behind, sides oblique near the base, but not sinuate; hind angles obtuse, almost rounded, not at all prominent; basal impressions broad, shallow, sparsely punctured; (only differs from the next by the hind angles of the thorax not being prominent, and is probably a race of it.)..... 12. *congener*.

4—4.5 mm. Usually testaceous, sometimes piceous, with pale margins; base of antennæ and feet yellow; prothorax a little wider than long, narrowed behind; sides subsinuate very near the hind angles, which are obtuse

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not rounded and slightly prominent; basal impressions broad, shallow, strongly punctured..... 13. *rupestris*.

4—4.25 mm. Blackish, margins brownish, feet and first two joints of antennæ yellow; prothorax as in *rupestris*, from which this species differs only by its darker color and more elongated form, and of which it seems to me to be a race..... 14. *parallelus*.

3.75 mm. Smaller, pale testaceous, metasternum and small elytral cloud dusky; prothorax nearly as wide as long, narrowed behind; sides obliquely subsinuate behind the middle; hind angles rectangular, not at all rounded; basal impressions broad, sparsely and finely punctured..... 15. *rivalis*.

3.75 mm. Less elongate than the others of this group; black, prothorax, elytra and feet testaceous; antennæ brown, with first 2 joints pale; prothorax wider than long, more narrowed behind; sides scarcely sinuate near the base, hind angles obtuse, very slightly prominent; basal impressions feeble, with a few punctures; eyes smaller and less prominent than usual. New Jersey and Virginia, two specimens 16. *nigripes*, n. sp.

3 mm. More elongate, black or piceous; antennæ and feet testaceous; the former sometimes brown, with two basal joints pale; prothorax but little wider than long, narrowed behind; sides scarcely sinuate near the base; hind angles obtuse, slightly prominent; basal impressions broad, sparsely punctured; eyes large, prominent..... 17. *tantillus*.

3—3.25 mm. Same form and color as the last, from which it differs only by the sides of the prothorax being distinctly subsinuate behind the middle and the hind angles nearly rectangular, not rounded, and somewhat prominent; the basal impressions are larger and more punctured; eyes large and prominent; antennæ brown, first two joints and feet testaceous.

18. *californicus*.

3.25 mm. Same form as the two preceding, but differing by the prothorax, the sides of which are obliquely rounded behind the middle, and the hind angles obtuse and rounded; basal impressions less deep, sparsely punctured; feet testaceous; antennæ dark piceous; first two joints testaceous.

19. *neglectus*.

b. Stria of elytra effaced, except the sutural one, which is deep; body rather stout and convex; prothorax not narrowed behind; sides subsinuate behind the middle; hind angles rectangular; basal impressions very feeble.

4.5—6.5 mm. Varies from testaceous to greenish black with a bronzed reflection; first two joints of antennæ and feet testaceous. Traces of a long scutellar stria are apparent in some specimens of this species, which thus differs from all the others in which the middle tarsi of the male are not furnished with papillæ..... 20. *nitidus*.

C.

This division contains but a single species of very elongate linear form, in which the eyes are much smaller and less prominent than in any other known to me; the prothorax much longer than wide, somewhat narrowed behind, broadly sinuate on the sides, which have the lateral bead much more strongly marked than in the other species; the basal impressions are long, narrow, deep and punctured; the hind angles rectangular; the elytra at the base are wider than the prothorax, very long and parallel, obliquely sinuate and subtruncate at tip; the striæ are deep, the scutellar is represented by a large puncture, and the second stria has a dorsal puncture behind the middle. The tibiæ are more spinous than in the other species, and the whole appearance of the insect is that of a small *Pterostichus*. The front tarsi of the male are feebly dilated, the middle tarsi without papillæ.

5.5 mm. Black, margins brownish; antennæ brown; first two joints and feet testaceous yellow; prosternum channeled between the front coxæ; peduncle of mesothorax coarsely punctured... .. 21. *linearis*.

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Bibliography and Remarks.

1. *B. dichrous Lec.*, Trans. Am. Phil. Soc., x, 385; *Harpalus dichrous* Dej., Sp. Gen., iv, 258; *H. iricolor* Say, Trans. Am. Phil. Soc., iv, 432.
2. *B. vulpeculus Lec.*, Trans. Am. Phil. Soc., x, 385; *Harpalus vulp.* Say, Trans. Am. Phil. Soc., ii, 30, ed. Lec., ii, 458; *ibid.* iv, 432, ed. Lec., ii, 545.
3. *B. autumnalis Lec.*, Trans. Am. Phil. Soc., x, 385; *Feronia autumn.* Say, Trans. Am. Phil. Soc., ii, 48, ed. Lec., ii, 473; *Geobænus autumn.* Lec., Ann. Lyc., N. York, iv, 403.
4. *B. badiipennis Lec.*, *ibid.*, x, 385; *Stenolophus bad.* Hald., Proc. Acad. Nat. Sc., Phil., i, 302; *Geobænus ruficrus* Lec., Ann. Lyc., N. York, iv, 404; *Geobænus lugubris* Lec., *ibid.*, iv, 405.
5. *B. atrimediæ Lec.*, *ibid.*, x, 385; *Feronia atr.* Say, Trans. Am. Phil. Soc., ii, 39, ed. Lec., ii, 466; *Trechus similis* Kirby, Faun. Bor. Am., iv, 48.
6. *B. nebulosus Lec.*, *ibid.*, x, 385; *Acupalpus suturalis* || Lec., Ann. Lyc., N. York, iv, 411.
7. *B. nigrinus Motsch.*, Käfer Russl., 22; *Harpalus nigr.* Dej., Sp. Gen., iv, 399; Mannh. Bull. Mosc., 1843, 213, *ibid.*, 1852, 298; *Geobænus quadricollis* Lec., Ann. Lyc., New York, iv, 405.
8. *B. tibialis Lec.*, List of Col. N. Am., 12; *Trechus tibialis* Kirby, Fauna Bor. Am., iv, 46; *Geobænus tib.* Lec., Ann. Lyc., N. York, iv, 405.
9. *B. axillaris Lec.*, List of Col. N. Am., 12; *Acupalpus ax.* Mannh., Bull. Mosc., 1853, 124. I received a specimen of this species from Count Mnisech, under the name *Ac. conflagratus* Mann., *ibid.*, 126.
10. *B. cognatus Schiodte*, Danm. El., i, 158; ej. Naturhist. Bidrag. Grönland, 54; *Acupalpus cogn.* Dej., Sp. Gen., iv, 440; *Ac. longiusculus* Mannh., Bull. Mosc., 1853, 125; and *B. nitens* Lec., Proc. Acad. Nat. Sc., Phil., 1858, 60.
11. *B. cordicollis Geobænus cord.* Lec., Ann. Lyc., N. York, iv, 406.
This species has been accidentally omitted in my list of N. Am. Coleoptera.
12. *B. congener Lec.*, Melsh. Cat. Descr. Col., 25; *Geobænus cong.* Lec., Ann. Lyc., N. York, iv, 407; *B. nubifer* Lec., Pr. Ac., 1858, 60, is a pale variety from Arizona, having the trunk and a small dorsal elytral cloud dusky. *B. ventralis* Lec., *ibid.*, is a specimen with more numerous punctures at the base of the prothorax.
13. *B. rupestris Lec.*, Mels. Cat. Descr. Col., 25; *Trechus rupestr.* Say, Trans. Am. Phil. Soc., ii, 91, ed. Lec., ii, 505; *Geobænus rup.* Lec., Ann. Lyc., N. York, iv, 406; *Acupalpus elongatulus* Dej., Sp. Gen., iv, 457; *Trechus flavipes* Kirby, Fauna Bor. Am., iv, 47; *Stenolophus cinctus* Say, Trans. Am. Phil. Soc., iv, 434, ed. Lec., ii, 547.
14. *B. parallelus Chaud.*, Rev. et Mag. Zool., 1868; ? *Acupalpus debilitipes* Say, Trans. Am. Phil. Soc., iv, 425, ed. Lec., ii, 548.
15. *B. rivalis Lec.*, Proc. Acad. Nat. Sc., Phil., 1858, 60.
17. *B. tantillus Chaud.*, Rev. and Mag. Zool., 1868; *Acupalpus tant.* Dej., Sp. Gen., iv, 465.
18. *B. californicus*, *Stenolophus cal.* Lec., Pac. R. R. Expl., xi, 2, Ins., 29.
19. *B. neglectus Geobænus negl.* Lec., Ann. Lyc., N. York, iv, 407; *Stenolophus negl.* Lec., Trans. Am. Phil. Soc., x, 385.
20. *B. nitidus Mannh.*, Bull. Mosc., 1843, 214; *Acupalpus nit.* Dej., Sp. Gen., iv, 474.
21. *B. linearis Lec.*, New Spec. Col. (Smiths. Inst.), 16.
Acupalpus symmetricus Motsch., Bull. Mosc., 1859, 2, 134. I have not identified this species, but suspect it to be a Western race of *B. rupestris*.
Trechus immunis Kirby, Fauna Bor. Am., found in lat. 54°, I have not identified; it is perhaps *Stenolophus carus Lec.*, but the description is scarcely sufficient to warrant the placing of the latter in synonymy.
- Geobænus arenarius Lec.*, Ann. Lyc. Nat. Hist., New York, iv, 403, referred by me (Trans. Am. Phil. Soc., x, 385) to *Bradycellus*, is proved by the discovery of the ♂ to belong to *Amara*, division *LIOCNEMIS*.

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